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EXAMINER	
DWIVEDI, MAHESH H	

ART UNIT	PAPER NUMBER
2168	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/708,940	BANDE ET AL.	
	Examiner	Art Unit	
	MAHESH H. DWIVEDI	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 November 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6,8,30,31,36-38 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6,8,30,31,36-38 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. Receipt of Applicant's Amendment filed on 11/10/2009 is acknowledged. The amendment includes the cancellation of claims 2-3, 7, 9-10, 12-13, 17, 21-29, 34-35, and 39, the amending of claims 1, 30-31, 36-38, the addition of claim 40, and the withdrawal of claims 11, 14-16, 18-20, and 32-33.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 4-6, 30-31, 36-38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Malik** (U.S. Patent 7,089,286) in view of **Weller** (U.S. PGPUB 2005/0055464).

5. Regarding claim 1, **Malik** teaches a method comprising:

A) determining in said client system whether to send said data in a compressed format (Column 5, lines 31-47, Figure 4);

B) if it is determined to send said data in said compressed format, compressing said data to generate compressed data using a compression approach and sending said

compressed data to said server system on said network (Column 4, lines 7-21, 22-34, Column 5, lines 31-47, Figures 2, 4); and

C) otherwise, sending said data in an uncompressed format to said server system on said network (Column 5, lines 31-47, Figure 4);

D) wherein said determined checks a processing load on said server system (Column 5, lines 48-67-Column 6, lines 1-6, Column 7, lines 60-67-Column 8, lines 1-17).

The examiner notes that **Malik** teaches **"determining in said client system whether to send said data in a compressed format"** as "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"if it is determined to send said data in said compressed format, compressing said data to generate compressed data using a compression approach and sending said compressed data to said server system on said network"** as "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers

20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (column 4, lines 7-21) and "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"otherwise, sending said data in an uncompressed format to said server system on said network"** as FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (column 4, lines 7-21) and "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for

each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"wherein said determined checks a processing load on said server system"** as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6) and "Depending upon the configuration of the recipient's e-mail communications system, the sender's e-mail configurator module can include additional capability to compress files according to the

size limits imposed by the recipient's LAN. In e-mail communication systems that are generally available in the prior art, a user will receive an "undeliverable mail" message in response to an e-mail, if the size of the group of attachments in the e-mail exceeds a predetermined size limit. The "undeliverable" message typically does indicate the size limit for the recipient's LAN. The present invention provides an automatic reconfiguration and resending of a mis-sent message in response to an "undeliverable message" that indicates the size limit for the recipient's LAN. The e-mail communications system according to this embodiment additionally includes in the e-mail configuration module 33 of FIG. 3 a detector for detecting the receipt of a "undeliverable" notification. The subject heading of the "undeliverable" notification provides the size limit for the recipient's LAN. The sent e-mail is retrieved and reconfigured according to steps 51 56 in FIG. 5. In this application, the "E-Mail Size Limit Standards" is provided from the subject heading of the "undeliverable" notification message. This reconfiguration and resend feature can occur automatically, or the user interface 31 in FIG. 3 may prompt the user to authorize re-transmitting the e-mail communication" (Column 7, lines 60-67-Column 8, lines 1-17).

Malik does not explicitly teach:

E) determines not to send said data in said compressed format if the processing load on said server system is determined to be more than a first threshold.

Weller, however, teaches **"determines not to send said data in said compressed format if the processing load on said server system is determined to be more than a first threshold"** as "If server 14 is the intended recipient, server 14 passes the message to the program within server 14 that should handle the message. In the illustrated example, this is server software 34 (step 104). Then, server software 34 determines if it will support header compression for messages of this type from client 12 (decision 106). This determination is based on the following factors: a) performance--(i) if the payload is many times larger than the header, then it is not necessary to cache the header; the savings would be minimal, or (ii) if this client does not often send messages to the server, then there would be little savings in caching the header for subsequent communications from this client, or (iii) if a header of this type typically

changes substantially from message to message, then there would be little or no savings in caching the headers because the client would have to send many header changes with each message. Server software 24 may consider one or more of the foregoing performance factors in determining whether to support header compression for this type of message or from this client. b) if the server has sufficient storage available at the time to cache the header(s). If the server does not have adequate storage, then it will not support header compression. Also, in some cases, the header is too large to practically cache… If the server software 34 is not willing or able to support header compression (decision 106, no branch), then server software 34 determines if the header is compressed, i.e. includes a UID instead of a full header (decision 108). If so, server software 34 will not handle the message and instead sends an error message back to the client indicating that the message should be resent with a full header (step 109). If not, server software 24 will handle the message (with message handling function 140) and respond to the message in the prior art manner, and not include any UID (step 110)" (Paragraphs 24-29) and "Referring again to decision 200, if the payload is not much larger than the header (decision 200, no branch), then server software 34 determines if server 14 has sufficient resources, mainly storage and processes, to support caching (decision 202). This determination is made by checking the computing environment resource manager for the amount of available storage and processes, and then comparing this amount to a predetermined threshold. If server 14 does not have sufficient resources, then server software 34 decides not to support header caching" (Paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Weller's** would have allowed **Malik's** to provide a method which considers the viability and efficiency of potential compression in data transmission to a server, as noted by **Weller** (Paragraph 07).

Regarding claim 4, **Malik** further teaches a method comprising:

A) wherein said determining checks a type of said data (Column 5, lines 8-30); and

B) determines not to send said data in said compressed format if said type does not lend to substantial data compression (Column 5, lines 8-30).

The examiner notes that **Malik** teaches **"wherein said determining checks a type of said data"** as "The system for automatically compressing attachment files in e-mail communications is now explained with reference to the e-mail communications system 30 in FIG. 3. E-mail interface 31 provides a user interface for composing e-mail communications. Files that are selected to be attachments are stored in memory 35a, and are linked to the e-mail interface through data structures stored in 35b. Compressibility table 34 provides a database of a plurality of different types of files and the degree of compressibility for each respective type of file. Examples of file types might include word processing files, CAD files, video files, presentation software application files, picture files, etc. The compressibility of each of the different types of files is preferably provided in table 34 as a percentage by which the corresponding file is typically reduced in size after compression. The compressibility table 34 is connected to an e-mail attachment configurator module 33 for determining which of the attachment files are to be compressed. Compression module 36 performs the compression of the attachment files selected to be compressed. The compression files are stored in memory 35b. Once the e-mail communication is configured for transmission, e-mail interface 31 forwards the e-mail message and attachment files to network interface 32" (Column 5, lines 8-30). The examiner further notes that **Malik** teaches **"determines not to send said data in said compressed format if said type does not lend to substantial data compression"** as "The system for automatically compressing attachment files in e-mail communications is now explained with reference to the e-mail communications system 30 in FIG. 3. E-mail interface 31 provides a user interface for composing e-mail communications. Files that are selected to be attachments are stored in memory 35a, and are linked to the e-mail interface through data structures stored in 35b. Compressibility table 34 provides a database of a plurality of different types of files and the degree of compressibility for each respective type of file. Examples of file types might include word processing files, CAD files, video files, presentation software application files, picture files, etc. The compressibility of each of the different types of

files is preferably provided in table 34 as a percentage by which the corresponding file is typically reduced in size after compression. The compressibility table 34 is connected to an e-mail attachment configurator module 33 for determining which of the attachment files are to be compressed. Compression module 36 performs the compression of the attachment files selected to be compressed. The compression files are stored in memory 35b. Once the e-mail communication is configured for transmission, e-mail interface 31 forwards the e-mail message and attachment files to network interface 32" (Column 5, lines 8-30).

Regarding claim 5, **Malik** further teaches a method comprising:
A) wherein said determining examines a size of said data (Column 7, lines 22-39); and
B) determines not to send said data in said compressed format if said size is small (Column 7, lines 22-39).

The examiner notes that **Malik** teaches **"wherein said determining examines a size of said data"** as "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39). The examiner further notes that **Malik** teaches **"determines not to send said data in said compressed format if said size is small"** as "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the

network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39).

Regarding claim 6, **Malik** further teaches a method comprising:

A) wherein said determining further checks a speed of data transfer on said network (Column 5, lines 48-67-Column 6, lines 1-6); and

B) determines not to use said compressed format if said speed is high (Column 5, lines 48-67-Column 6, lines 1-6)

The examiner notes that **Malik** teaches **"wherein said determining further checks a speed of data transfer on said network"** as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy

time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6). The examiner further notes that **Malik** teaches **"determines not to use said compressed format if said speed is high"** as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6).

Regarding claim 30, **Malik** further teaches a method comprising:

A) wherein said determining checks said processing load in a plurality of corresponding previous time durations on said server system including at a first time instance and then at a second time instance (Column 7, lines 22-39); and
B) determines not to send data in said compressed format between said first time instance and said second time instance if the processing load determined at said first time instance is more than said first threshold (Column 5, lines 31-47, Figure 4, Column 7, lines 22-39).

The examiner notes that **Malik** teaches **"wherein said determining checks said processing load in a plurality of corresponding previous time durations on said server system including at a first time instance and then at a second time instance"** as "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39). The examiner further notes that **Malik** teaches **"determines not to send data in said compressed format between said first time instance and said second time instance if the processing load determined at said first time instance is more than said first threshold"** as "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step

41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47) and "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39).

Regarding claim 31, **Malik** further teaches a method comprising:

A) wherein said determining checks a processing load on said client system (Column 5, lines 48-67-Column 6, lines 1-6, Figure 4, Column 7, lines 22-39, 60-67-Column 8, lines 1-17); and

B) determines to send said data in said compressed format if the processing load on said server system is not more than a first threshold and if the processing load on said client system is not more than a second threshold (Column 5, lines 48-67-Column 6, lines 1-6, Figure 4, Column 7, lines 22-39, 60-67-Column 8, lines 1-17).

The examiner notes that **Malik** teaches **"wherein said determining checks a processing load on said client system"** as "The threshold according to which the

system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6), "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39), and "Depending upon

the configuration of the recipient's e-mail communications system, the sender's e-mail configurator module can include additional capability to compress files according to the size limits imposed by the recipient's LAN. In e-mail communication systems that are generally available in the prior art, a user will receive an "undeliverable mail" message in response to an e-mail, if the size of the group of attachments in the e-mail exceeds a predetermined size limit. The "undeliverable" message typically does indicate the size limit for the recipient's LAN. The present invention provides an automatic reconfiguration and resending of a mis-sent message in response to an "undeliverable message" that indicates the size limit for the recipient's LAN. The e-mail communications system according to this embodiment additionally includes in the e-mail configuration module 33 of FIG. 3 a detector for detecting the receipt of a "undeliverable" notification. The subject heading of the "undeliverable" notification provides the size limit for the recipient's LAN. The sent e-mail is retrieved and reconfigured according to steps 51 56 in FIG. 5. In this application, the "E-Mail Size Limit Standards" is provided from the subject heading of the "undeliverable" notification message. This reconfiguration and resend feature can occur automatically, or the user interface 31 in FIG. 3 may prompt the user to authorize re-transmitting the e-mail communication" (Column 7, lines 60-67-Column 8, lines 1-17). The examiner further notes that **Malik** teaches **"determines to send said data in said compressed format if the processing load on said server system is not more than a first threshold and if the processing load on said client system is not more than a second threshold"** as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In

contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6), "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39), and "Depending upon the configuration of the recipient's e-mail communications system, the sender's e-mail configurator module can include additional capability to compress files according to the size limits imposed by the recipient's LAN. In e-mail communication systems that are generally available in the prior art, a user will receive an "undeliverable mail" message in response to an e-mail, if the size of the group of attachments in the e-mail exceeds a predetermined size limit. The "undeliverable" message typically does indicate the size limit for the recipient's LAN. The present invention provides an automatic reconfiguration and resending of a mis-sent message in response to an "undeliverable message" that indicates the size limit for the recipient's LAN. The e-mail communications system

according to this embodiment additionally includes in the e-mail configuration module 33 of FIG. 3 a detector for detecting the receipt of a "undeliverable" notification. The subject heading of the "undeliverable" notification provides the size limit for the recipient's LAN. The sent e-mail is retrieved and reconfigured according to steps 51 56 in FIG. 5. In this application, the "E-Mail Size Limit Standards" is provided from the subject heading of the "undeliverable" notification message. This reconfiguration and resend feature can occur automatically, or the user interface 31 in FIG. 3 may prompt the user to authorize re-transmitting the e-mail communication" (Column 7, lines 60-67-Column 8, lines 1-17).

Regarding claim 36, **Malik** teaches a computing system comprising:

A) a server system to enable storage and access of data (Column 5, lines 31-47, Figure 4);

B) a network to provide connectivity to said server system (Column 3, lines 54-61); and

C) a client system comprising: a client block to generate a data to be stored in said database server (Column 3, lines 54-61, Column 5, lines 31-47);

D) a session layer block to establish a connection with said server system on said network (Column 3, lines 54-61);

E) wherein said connection enables sending of said data to said server system (Column 3, lines 54-61, Column 5, lines 31-47);

F) a compression block to: receive a parameter representing a processing load on said server system (Column 5, lines 48-67-Column 6, lines 1-6, Column 7, lines 60-67-Column 8, lines 1-17);

H) wherein if it is determined to send said data in a compressed format, said compression block to compress said data to generate compressed data and said session layer block to send said compressed data on said connection to said server system (Column 4, lines 7-21, 22-34, Column 5, lines 31-47, Figures 2, 4);

I) otherwise, said session layer block to send said data in an uncompressed format on said connection to said server system (Column 5, lines 31-47, Figure 4).

The examiner notes that **Malik** teaches **"a database server to enable storage and access of data"** as "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"a network to provide connectivity to said database server"** as "The present invention will now be described in more detail with reference to the figures. FIG. 1 is a schematic diagram of a basic computer network system, in which computer 10 is connected to computer 12 through a network 13 to facilitate e-mail communications with attachments. Computer 10 has an e-mail communications user interface 11 that permits the computer to send e-mail communications using network 13" (Column 3, lines 54-61). The examiner further notes that **Malik** teaches **"a client system comprising: a client block to generate a data to be stored in said database server"** as "The present invention will now be described in more detail with reference to the figures. FIG. 1 is a schematic diagram of a basic computer network system, in which computer 10 is connected to computer 12 through a network 13 to facilitate e-mail communications with attachments. Computer 10 has an e-mail communications user interface 11 that permits the computer to send e-mail communications using network 13" (Column 3, lines 54-61) and "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside

the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"a session layer block to establish a connection with said server system on said network"** as "The present invention will now be described in more detail with reference to the figures. FIG. 1 is a schematic diagram of a basic computer network system, in which computer 10 is connected to computer 12 through a network 13 to facilitate e-mail communications with attachments. Computer 10 has an e-mail communications user interface 11 that permits the computer to send e-mail communications using network 13" (Column 3, lines 54-61). The examiner further notes that **Malik** teaches **"wherein said connection enables sending of said data to said server system"** as "The present invention will now be described in more detail with reference to the figures. FIG. 1 is a schematic diagram of a basic computer network system, in which computer 10 is connected to computer 12 through a network 13 to facilitate e-mail communications with attachments. Computer 10 has an e-mail communications user interface 11 that permits the computer to send e-mail communications using network 13" (Column 3, lines 54-61) and "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (Column 5, lines 31-47). The examiner notes that **Malik** teaches **"a compression block to: receive a parameter representing a**

processing load on said server system" as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6) and "Depending upon the configuration of the recipient's e-mail communications system, the sender's e-mail configurator module can include additional capability to compress files according to the size limits imposed by the recipient's LAN. In e-mail communication systems that are generally available in the prior art, a user will receive an "undeliverable mail" message in response to an e-mail, if the size of the group of attachments in the e-mail exceeds a predetermined size limit. The "undeliverable" message typically does indicate the size limit for the recipient's LAN. The present invention provides an automatic reconfiguration and resending of a mis-sent message in response to an "undeliverable message" that indicates the size limit for the recipient's LAN. The e-mail communications system according to this embodiment additionally includes in the e-mail configuration module 33 of FIG. 3 a detector for detecting the receipt of a "undeliverable" notification. The

subject heading of the "undeliverable" notification provides the size limit for the recipient's LAN. The sent e-mail is retrieved and reconfigured according to steps 51 56 in FIG. 5. In this application, the "E-Mail Size Limit Standards" is provided from the subject heading of the "undeliverable" notification message. This reconfiguration and resend feature can occur automatically, or the user interface 31 in FIG. 3 may prompt the user to authorize re-transmitting the e-mail communication" (Column 7, lines 60-67-Column 8, lines 1-17). The examiner further notes that **Malik** teaches **"wherein if it is determined to send said data in a compressed format, said compression block to compress said data to generate compressed data and said session layer block to send said compressed data on said connection to said server system"** as "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (column 4, lines 7-21) and "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other

files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"otherwise, said session layer block to send said data in an uncompressed format on said connection to said server system"** as FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (column 4, lines 7-21) and "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47).

Malik does not explicitly teach:

G) examine said processing load in the form of said parameter to determine whether said processing load on said server system is more than a first threshold, and determine

not to send said data in a compressed format if the processing load on said server system is more than said first threshold.

Weller, however, teaches **"examine said processing load in the form of said parameter to determine whether said processing load on said server system is more than a first threshold, and determine not to send said data in a compressed format if the processing load on said server system is more than said first threshold"** as "If server 14 is the intended recipient, server 14 passes the message to the program within server 14 that should handle the message. In the illustrated example, this is server software 34 (step 104). Then, server software 34 determines if it will support header compression for messages of this type from client 12 (decision 106). This determination is based on the following factors: a) performance--(i) if the payload is many times larger than the header, then it is not necessary to cache the header; the savings would be minimal, or (ii) if this client does not often send messages to the server, then there would be little savings in caching the header for subsequent communications from this client, or (iii) if a header of this type typically changes substantially from message to message, then there would be little or no savings in caching the headers because the client would have to send many header changes with each message. Server software 24 may consider one or more of the foregoing performance factors in determining whether to support header compression for this type of message or from this client. b) if the server has sufficient storage available at the time to cache the header(s). If the server does not have adequate storage, then it will not support header compression. Also, in some cases, the header is too large to practically cache... If the server software 34 is not willing or able to support header compression (decision 106, no branch), then server software 34 determines if the header is compressed, i.e. includes a UID instead of a full header (decision 108). If so, server software 34 will not handle the message and instead sends an error message back to the client indicating that the message should be resent with a full header (step 109). If not, server software 24 will handle the message (with message handling function 140) and respond to the message in the prior art manner, and not include any UID (step 110)" (Paragraphs 24-29) and "Referring again to decision 200, if the payload

is not much larger than the header (decision 200, no branch), then server software 34 determines if server 14 has sufficient resources, mainly storage and processes, to support caching (decision 202). This determination is made by checking the computing environment resource manager for the amount of available storage and processes, and then comparing this amount to a predetermined threshold. If server 14 does not have sufficient resources, then server software 34 decides not to support header caching" (Paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Weller's** would have allowed **Malik's** to provide a method which considers the viability and efficiency of potential compression in data transmission to a server, as noted by **Weller** (Paragraph 07).

Regarding claim 37, **Malik** further teaches a computing system comprising:
A) wherein said compression block determines a processing load on said server system in a corresponding previous time duration at a plurality of time instances (Column 7, lines 22-39); and
B) decides whether or not to send data in said compressed format based on the processing load in a preceding time instance (Column 5, lines 31-47, Figure 4, Column 7, lines 22-39).

The examiner notes that **Malik** teaches **"wherein said compression block determines a processing load on said server system in a corresponding previous time duration at a plurality of time instances"** as "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to

improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39). The examiner further notes that **Malik** teaches **"decides whether or not to send data in said compressed format based on the processing load in a preceding time instance"** as "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47) and "As referred to above, the e-mail size limit standard can be determined by the network, predetermined within the e-mail application, or specified by the user. When automatically calculated by the network, a size limit will be supplied through the network interface 32 in FIG. 3 periodically throughout the day according to the traffic along the network. For example, the network administrator may set the limits for the maximum e-mail size at 2.0 MB when the network is at 50% capacity, 1.5 MB when the network is at 75% capacity, and 1.0 MB when the network is at 95% capacity. There can be as many intervals as necessary to improve performance along the network. The capacity of the network is determined and supplied to the configuration module via the network interface. The network information relevant to the user's e-mail may concern the network traffic on the entire LAN, or just the traffic on the portion of the

LAN the extends from the user's computer to the post office on the LAN" (Column 7, lines 22-39).

Regarding claim 38, **Malik** further teaches a computing system comprising:
A) wherein said client system comprises a database client (Column 5, lines 31-47, Figure 4); and
B) said server system comprises a database server such that data is transferred from said database client to said database server (Column 4, lines 7-21).

The examiner notes that **Malik** teaches **"wherein said client system comprises a database client"** as "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"said server system comprises a database server such that data is transferred from said database client to said database server"** as "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN

21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (Column 4, lines 7-21).

Regarding claim 40, **Malik** teaches a computer readable medium comprising:
A) receiving a parameter representing a processing load on said server system (Column 5, lines 48-67-Column 6, lines 1-6, Column 7, lines 60-67-Column 8, lines 1-17);
C) if it is determined to send said data in said compressed format, compressing said data to generate compressed data using a compression approach and sending said compressed data to said server system on said network (Column 4, lines 7-21, 22-34, Column 5, lines 31-47, Figures 2, 4); and
D) otherwise, sending said data in an uncompressed format to said server system on said network (Column 5, lines 31-47, Figure 4).

The examiner notes that **Malik** teaches **"receiving a parameter representing a processing load on said server system"** as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the

network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6) and "Depending upon the configuration of the recipient's e-mail communications system, the sender's e-mail configurator module can include additional capability to compress files according to the size limits imposed by the recipient's LAN. In e-mail communication systems that are generally available in the prior art, a user will receive an "undeliverable mail" message in response to an e-mail, if the size of the group of attachments in the e-mail exceeds a predetermined size limit. The "undeliverable" message typically does indicate the size limit for the recipient's LAN. The present invention provides an automatic reconfiguration and resending of a mis-sent message in response to an "undeliverable message" that indicates the size limit for the recipient's LAN. The e-mail communications system according to this embodiment additionally includes in the e-mail configuration module 33 of FIG. 3 a detector for detecting the receipt of a "undeliverable" notification. The subject heading of the "undeliverable" notification provides the size limit for the recipient's LAN. The sent e-mail is retrieved and reconfigured according to steps 51 56 in FIG. 5. In this application, the "E-Mail Size Limit Standards" is provided from the subject heading of the "undeliverable" notification message. This reconfiguration and resend feature can occur automatically, or the user interface 31 in FIG. 3 may prompt the user to authorize re-transmitting the e-mail communication" (Column 7, lines 60-67-Column 8, lines 1-17). The examiner further notes that **Malik** teaches **"if it is determined to send said data in said compressed format, compressing said data to generate compressed data using a compression approach and sending said compressed data to said server system on said network"** as "FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22

connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (column 4, lines 7-21) and "The method of selectively compressing attachment files according to the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47). The examiner further notes that **Malik** teaches **"otherwise, sending said data in an uncompressed format to said server system on said network"** as FIG. 2 is a schematic diagram of a specific networked computer system in accordance with a preferred embodiment of the present invention, wherein an e-mail communication with an attachment is transmitted from computer 20a to computer 28c via the Internet 24. Computers 20a, 20b, and 20c are connected together via LAN 21. Post office server 22 connects to LAN 21 for transmitting e-mail both within and outside the LAN network. A world wide web hyper text transport protocol ("HTTP") server 23 ("web server") is also connected to the LAN 21 for facilitating communication between any of the computers 20a, 20b, and 20c with other computer systems via the internet 24. Likewise, computers 28a, 28b, and 28c are connected together through LAN 27, which is also connected to a post office server 26 and web server 25" (column 4, lines 7-21) and "The method of selectively compressing attachment files according to

the preferred embodiment is described with reference to FIG. 4. A user composes an e-mail communication having one or more attachments. Once the user requests to transmit the e-mail communication, as in step 40, the system determines the file type for each attachment file designated with the e-mail communication, as in step 41. Information regarding the compressibility of one of the designated attachment files is loaded in step 42 into the e-mail attachment configurator module 33 of FIG. 3. The system checks if the compressibility of that file type is above a certain threshold, in step 43. If it is, the file is then compressed in step 44. The process of loading compression information and selectively compressing files continues until each file has been analyzed. When the system determines that no other files remain to be analyzed, in step 45, the e-mail communication is transmitted, in step 46" (Column 5, lines 31-47).

Malik does not explicitly teach:

B) examining said processing load in the form of said parameter to determine whether said processing load on said server system is more than a first threshold, and determining not to send said data in a compressed format if the processing load on said server system is more than said first threshold.

Weller, however, teaches **"examining said processing load in the form of said parameter to determine whether said processing load on said server system is more than a first threshold, and determining not to send said data in a compressed format if the processing load on said server system is more than said first threshold"** as "If server 14 is the intended recipient, server 14 passes the message to the program within server 14 that should handle the message. In the illustrated example, this is server software 34 (step 104). Then, server software 34 determines if it will support header compression for messages of this type from client 12 (decision 106). This determination is based on the following factors: a) performance--(i) if the payload is many times larger than the header, then it is not necessary to cache the header; the savings would be minimal, or (ii) if this client does not often send messages to the server, then there would be little savings in caching the header for subsequent communications from this client, or (iii) if a header of this type typically changes substantially from message to message, then there would be little or no savings in

caching the headers because the client would have to send many header changes with each message. Server software 24 may consider one or more of the foregoing performance factors in determining whether to support header compression for this type of message or from this client. b) if the server has sufficient storage available at the time to cache the header(s). If the server does not have adequate storage, then it will not support header compression. Also, in some cases, the header is too large to practically cache… If the server software 34 is not willing or able to support header compression (decision 106, no branch), then server software 34 determines if the header is compressed, i.e. includes a UID instead of a full header (decision 108). If so, server software 34 will not handle the message and instead sends an error message back to the client indicating that the message should be resent with a full header (step 109). If not, server software 24 will handle the message (with message handling function 140) and respond to the message in the prior art manner, and not include any UID (step 110)" (Paragraphs 24-29) and "Referring again to decision 200, if the payload is not much larger than the header (decision 200, no branch), then server software 34 determines if server 14 has sufficient resources, mainly storage and processes, to support caching (decision 202). This determination is made by checking the computing environment resource manager for the amount of available storage and processes, and then comparing this amount to a predetermined threshold. If server 14 does not have sufficient resources, then server software 34 decides not to support header caching" (Paragraph 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Weller's** would have allowed **Malik's** to provide a method which considers the viability and efficiency of potential compression in data transmission to a server, as noted by **Weller** (Paragraph 07).

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Malik** (U.S. Patent 7,089,286) in view of **Weller** (U.S. PGPUB 2005/0055464) as applied to claims 1, 4-6, 30-31, 36-38 and 40 above, and in view of **Gish** (U.S. PGPUB 2005/0144309).

7. Regarding claim 8, **Malik** further teaches a method and computer readable medium comprising:

A) wherein said determining further checks a speed of data transfer on said network and determines not to use said compressed format is said speed is high (Column 5, lines 48-67-Column 6, lines 1-6, Column 7, lines 60-67-Column 8, lines 1-17).

The examiner notes that **Malik** teaches **"wherein said determining further checks a speed of data transfer on said network and determines not to use said compressed format is said speed is high"** as "The threshold according to which the system decides whether to compress a file can be automatically calculated, predetermined, or user-selected. An automatically calculated system changes the threshold point according to the relative amount of traffic on the network. The threshold point is used in step 43 of FIG. 4 for determining whether an attachment file is to be compressed. For example, in the late evening, when a LAN for a business is generally underutilized, the threshold for compressing files can be set to be relatively large such that few files are compressed. This allows for faster transmission because the system compresses comparatively fewer files before transmission. The recipient of the e-mail communication will also have the benefit that fewer files need to be decompressed. In contrast, during the peak hours on the network, the compression threshold is lowered, such that a majority of the attachment files are compressed before transmission along the network. This reduces the number of packets sent along the network during busy time periods, thus allowing for more efficient usage. A detector connected to the network server (not shown in FIG. 3) detects the relative network traffic, and sends a signal regarding the traffic information to network interface 32 in FIG. 3. The detector determines the relative amount of traffic on the network by a number of known methods. This information is then provided to the e-mail attachment configuration module 33 from network interface 32" (Column 5, lines 48-67-Column 6, lines 1-6) and "Depending upon the configuration of the recipient's e-mail communications system, the sender's e-mail configurator module can include additional capability to compress files according to the size limits imposed by the recipient's LAN. In e-mail communication systems that are generally available in the prior art, a user will receive an "undeliverable mail" message

in response to an e-mail, if the size of the group of attachments in the e-mail exceeds a predetermined size limit. The "undeliverable" message typically does indicate the size limit for the recipient's LAN. The present invention provides an automatic reconfiguration and resending of a mis-sent message in response to an "undeliverable message" that indicates the size limit for the recipient's LAN. The e-mail communications system according to this embodiment additionally includes in the e-mail configuration module 33 of FIG. 3 a detector for detecting the receipt of a "undeliverable" notification. The subject heading of the "undeliverable" notification provides the size limit for the recipient's LAN. The sent e-mail is retrieved and reconfigured according to steps 51 56 in FIG. 5. In this application, the "E-Mail Size Limit Standards" is provided from the subject heading of the "undeliverable" notification message. This reconfiguration and resend feature can occur automatically, or the user interface 31 in FIG. 3 may prompt the user to authorize re-transmitting the e-mail communication" (Column 7, lines 60-67-Column 8, lines 1-17).

Malik and **Weller** do not explicitly teach:

B) wherein said speed is determined by including a first local time stamp in a packet sent to said second end system, and receiving a second time stamp and a third time stamp from said second end system at a time specified by a fourth local time stamp, wherein said second time stamp indicates a time at which said packet is received in said second end system and said third time stamp indicates a time at which said packet is sent from said second end system, wherein said speed is determined based on said first local time stamp, said second time stamp, said third time stamp, and said fourth time stamp.

Gish, however, teaches **"wherein said speed is determined by including a first local time stamp in a packet sent to said second end system, and receiving a second time stamp and a third time stamp from said second end system at a time specified by a fourth local time stamp, wherein said second time stamp indicates a time at which said packet is received in said second end system and said third time stamp indicates a time at which said packet is sent from said second end system, wherein said speed is determined based on said first local time stamp,**

said second time stamp, said third time stamp, and said fourth time stamp" as "In one embodiment, the basic timing protocol involves sending messages at regular intervals from a timing client to a timing server and back. Four time-stamps (TS) are appended to this round-trip message. Specifically: TS1 Appended by the client when it sends the message to the server TS2 Appended by the server when it receives the message TS3 Appended by the server when it sends the message back to the client TS4 Appended by the client when it receives the message. These four time-stamps are then used by the timing algorithm, which calculates the round-trip delay. In one embodiment the round-trip delay is computed as: (TS4-TS1)-(TS3-TS2). This corresponds to the time it takes for a message to travel to the timing server and back, minus the time it takes for the server to turn the message around" (Paragraphs 50-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Gish's** would have allowed **Malik's** and **Weller's** to provide a method for a server to combat congestions and detect faulty behavior in networks through various calculation techniques, as noted by **Gish** (Paragraph 3).

Response to Arguments

8. Applicant's arguments filed 11/10/2009 have been fully considered but they are not persuasive.

Applicant argues on page 09 that **"It is respectfully pointed out that while the client of Malik determines locally (in client system) whether or not compress, Weller makes the decision at the server system. The Examiner appears to ignore this contradiction, and selectively chooses to combine the features of Weller with Malik in rejecting previously presented independent claim 1"**. However, the examiner wishes to refer to independent claim 1 and specifically point to the limitation in question which states "determines not to send said data in said compressed format if the processing load on said server system is determined to be more than a first threshold". The examiner further wishes to state that all limitation requires is a decision of not compressing data if a load at a server is above a specific threshold. **Malik** teaches the claimed determination of a load on a server (See limitation D), but does not

teach the claimed above a certain threshold. **Weller** clearly teaches limitation E in seeing if a server's computing resources are above a certain threshold for potential compression. The claimed determination of a server's load via a client is already taught by the primary reference of **Malik**, and thus, applicant's arguments are without merit.

Applicant argues on page 09 that **"Thus, Malik teaches away (in suggesting a technique, which is opposite effect) from the invention of claim 1"**. However, Applicants are also reminded that in order to disqualify a reference based on a "teach away" reasoning, the reference has to *explicitly* suggest or disclose the so-called teach away steps - Applicants assertion can not be accepted if it is unsupported by a valid evidence. In this case, the limitation of whether a load on a server is above a threshold is clearly taught by **Weller**.

Applicant argues on page 09 that **"The combination of Malik and Weller is accordingly based only on hindsight gleaned from the Applicant's disclosure"**. However, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues on page 09 that **"the feature of Malik relied upon by the Examiner operates in the recipient LAN of Malik, while the features of Weller operates in a server system. Therefore, combining the two concepts would at least require undue experimentation, and thus also the combination is not obvious to combine"**. However, in contrast to applicant's assertions, the combination of **Malik** and **Weller** would not cause undue experimentation. Specifically, both **Malik** and **Weller** deal with decisions on whether to compress/not to compress in networked environments. Thus, the combination is clearly proper.

Applicants argue on page 10 that **"Independent claims 36 and 40 are allowable for the additional reason in reciting that the client system examines a parameter value representing the processing load on the server, and the decision whether to use compression or not is made in the client system. In sharp contrast, in Weller, server 14 decides whether the header is to be compressed or not. The decision alone is communicated to the client 12 of Weller"**. However, the examiner wishes to state that **Malik** clearly teaches examining a server parameter in a client, and also teaches determining whether or not to compress at a client (See rejection of limitation D of independent claim 1).

Applicants argue on page 10 that **"Malik has the deficiency that compression is not used when the processing load is higher at the remote side"**. However, the secondary reference of **Weller** teaches the aforementioned.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. PGPUB 2004/0205249 issued to **Berry** on 14 October 2004. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2005/0210151 issued to **Abdo et al.** on 22 September 2005. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2005/0268068 issued to **Ignatius et al.** on 01 December 2005. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2002/0184224 issued to **Haff et al.** on 05 December 2002. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. Patent 7,043,524 issued to **Shah et al.** on 09 May 2006. The subject matter disclosed therein is pertinent to that of claims 30-35 (e.g., periodic determination of cpu utilization).

U.S. Patent 7,024,460 issued to **Koopmas et al.** on 04 April 2006. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. Patent 6,535,238 issued to **Kressin** on 18 May 2003. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2005/0188112 issued to **Desai et al.** on 25 August 2005. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

European Patent WO 02/097584 issued to **Cranstone** on 05 December 2002. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. Patent 5,276,898 issued to **Kiel et al.** on 04 January 1994. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. Patent 6,832,241 issued to **Tracton et al.** on 14 December 2004. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2004/0103215 issued to **Ernst et al.** on 27 May 2004. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2003/0123466 issued to **Somekh et al.** on 03 July 2003. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2004/0143650 issued to **Wollowitz** on 22 July 2004. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. Patent 7,398,325 issued to **Weller** on 08 July 2008. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. Patent 7,437,483 issued to **Goossen et al.** on 14 October 2008. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2004/0228533 issued to **Aldelmann** on 18 November 2004. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2004/0228533 issued to **Mueller et al.** on 10 October 2002. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2007/0299988 issued to **Weller** on 27 December 2007. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

U.S. PGPUB 2004/0136598 issued to **Leannec et al.** on 15 July 2004. The subject matter disclosed therein is pertinent to that of claims 1, 4-6, 8, 30-31, and 36-38, and 40 (e.g., determining whether to compress data to a requesting client).

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mahesh Dwivedi
Patent Examiner
Art Unit 2168

January 21, 2010
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